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TARDEC Helps To Keep Soldiers Safe

By Monica Kapso and Paul Mehney

U.S. Army Tank Automotive Research, Development and Engineering Center

WARREN, Mich.--Army guidance is clear, "unexploded ordnance is a threat of which every soldier should be aware," but for Explosive Ordnance Disposal (EOD) units, coming in contact with this deadly foe is just another day in the office.

Researchers at the U.S. Army Tank-Automotive Research, Development and Engineering Center (TARDEC) are striving to make the EOD technician safer and certainly less stressed by giving the Soldier a system to defuse munitions from a safe standoff location. TARDEC, working with industry partner, Foster-Miller, Inc. of Waltham, Mass., has developed a revolutionary mounting system that will allow EOD technicians to use the TALON unmanned ground vehicle to defuse explosive ordnance.

Currently, TARDEC has a Small Business Innovation Research (SBIR) contract in place with Foster-Miller to develop mission payloads for Small Unmanned Ground Vehicles (SUGVs).

According to TARDEC project lead David Kowacheck, "Seeing that most EOD Soldiers are familiar with and use the TALON platform in a variety of dangerous circumstances, it was natural for our team to take a look at how the TALON could make these Soldiers' jobs a bit safer. We soon found out that units did not have a way to mount their most common tool—the Percussion Actuated Non-electric (PAN) disruptor to the TALON."

Current procedures call for the EOD Soldier to wear a heavy and hot bomb suit and then physically approach the device to deactivate with a tripod mounted PAN disruptor. Developed by Sandia National Laboratories, the PAN disruptor is possibly the most common EOD tool used to render-safe explosive devices.

The PAN precisely interrupts a bomb's internal gadgetry (fuse) quickly, before the bomb can detonate. However, often the device is booby-trapped, remotely controlled or over watched by an enemy sniper. Kowacheck states, "One of the chief reasons that the PAN could not be deployed on an unmanned ground platform, to keep Soldiers at a remote distance, was the fact that no mount bracket existed that would withstand the disruptor's powerful recoil. The TARDEC-Foster Miller team took on that challenge."

Within a matter of months, the team developed and prototyped a system that allows the PAN to be employed on the TALON. The improved method features an inexpensive recoil mitigating mount for the PAN disruptor which allows the EOD technician to use the robot to evaluate the IED and orient the PAN while remaining at a safe stand-off distance for the entire procedure. The shock-reducing mount mitigates the recoil from the disrupter, preventing undue robot lifecycle damage.

Currently, this system has successfully undergone limited safety testing at the Naval Systems Warfare Center – Indian Head Division, and more than fifteen mounts have been sent to our EOD Soldiers in-theater for testing and evaluation.

Benefits will include, increased Soldier survivability, ability to open threatened roadways quicker, less threat to civilian bystanders and offers a low cost solution at under \$3,000 per mount. Soldiers are enthusiastic about employing this potentially life saving technology. An excerpt from a note from one of our EOD commanders affirms their appreciation for these systems, "I thank you for the great assistance you guys are lending us. Losing one of our own drives home the necessity of using that TALON first."

Kowacheck agrees, "Once the EOD Soldier brings his TALON in for routine maintenance by an in theater Foster Miller technician, he will be give a PAN mount to use when he returns to the field. So, in the end, we end up with an EOD Soldier, able to control an



The Talon robot with PAN disrupter.



SUGV from a safe location during the entire EOD process. Being able to quickly deploy these life-saving mounts has been a true industry-government partnership for the Soldier.”

Army Activates 20th Support Command

20th Support Command

ABERDEEN PROVING GROUND, Md. – The Army recently created a new one-of-a-kind organization to serve as the Army's command and control element and provider of U.S. based chemical, biological, radiological, nuclear and explosive ordnance operational response teams and technical augmentation cells worldwide.

The new command officially activated on Oct. 16 as the 20th Support Command, but is also referred to as the CBRNE Command. The acronym refers to the weapons of mass destruction response capabilities of the organization -- chemical, biological, radiological, nuclear and high-yield explosives.

The CBRNE Command is subordinate to the U.S. Army Forces Command (FORSCOM) and brings command and control of the Army's most specialized WMD operational assets together. This provides a single point of contact within the Army for the Department of Defense to call when a coordinated response to the threat or use of weapons of mass destruction is needed anywhere in the world.

The mission is to command and control organic and allocated Army technical assets to support full-spectrum CBRNE technical operations that detect, identify, assess, render-safe, dismantle, transfer, dispose of CBRNE incident devices and materiel including unexploded ordnance (UXO) and improvised explosive devices (IED).

The command is also responsible for managing Department of Defense technical support to consequence management operations and provides CBRNE technical advice and subject matter expertise. The organization can mitigate hazards resulting from an incident involving the nation's chemical warfare stockpile; recovery and disposal of legacy chemical and biological munitions and materials from formerly used defense sites (FUDS); conduct technical escort of chemical surety materiel in support of the management of chemical stockpile and chemical defense research and development. The new command has the technical expertise to conduct sensitive site exploitation, disablement, disposition, demilitarization and consequence management operations as well as support U.S. Secret Service and Department of State operations protecting the president and other designated VIPs.

In addition to exercising battle command functions for the Army's technical assets engaged in CBRNE response and consequence management operations, CBRNE Command provides a dedicated capability to rapidly augment and reinforce CBRNE installation support teams following a CBRNE incident that may occur at any U.S. Army installation or facility and will allocate CBRNE forces and resources necessary to support missions directed by the commander of FORSCOM.

Commanding General Dan K. McNeill, U.S. Army Forces Command, recognized those elements of the 20th Support Command currently supporting the war, as well as those soldiers who have already served in Iraq and Afghanistan, some returning as many as four times.

"The war is not getting any easier, but we are winning it. It is not won, but it will be. There can be no other outcome," McNeill asserted. "Make no mistake: our values and our way of life are what are at stake in this fight," he warned.

"The activation of the 20th Support Command and the 22d Chemical Battalion today is not merely a measure of prudence, it's a hard necessity," McNeill said. "It is an essential capability we will require for some time."

20th Support Command activates with the following subordinate units: the 52d Ordnance Group (EOD), 3d Ordnance Battalion, 63d Ordnance Battalion, 79th Ordnance Battalion, 184th Ordnance Battalion, 22d Chemical Battalion, and operational control of the Army Reserve Unit - Consequence Management. Future growth of the command includes the activation of an additional explosive



Gen. Dan K. McNeill (right) passes the colors of the newly activated US Army 20th Support Command (Chemical, Biological, Radiological, Nuclear and High Yield Explosives) to the new commander, Col. Walter L. Davis (left).



ordnance disposal group with three subordinate battalions, chemical brigade headquarters with an additional chemical battalion, and an Analytical and Remediation Directorate.

The new CBRNE commander, Col. Walt Davis, spoke of the 52d Ordnance Group battalions and 22d Chemical Battalion teams currently deployed in support of Operations Iraqi Freedom and Enduring Freedom and those preparing to deploy. "Their and your reputation is impeccable and it has been earned daily, in the most demanding conditions abroad and at home in defense of our nation's freedom," he said.

The activation of this new command and transfer of assets to FORSCOM is an important part of the overall transformation effort of the Army. This organization provides a relevant and ready land power capability to combatant commanders and the joint team. The Guardian Brigade was a transitional unit established provisionally on Oct. 15, 2003; received permanent orders on Feb. 23, 2004; and deactivated on Oct. 15, 2004. This organization began the transformation, provided an interim capability and the time necessary to establish the CBRNE Command.

When fully operational, this deployable operational-level command will be able to manage existing and future programmed CBRNE response assets that can simultaneously respond to multiple CBRNE incidents in support of combatant commanders and the joint team at home and around the world.

(Submitted by 20th Support Command Public Affairs Office)

The Hot HMMWV Becomes a Little Cooler

By Ashley John

U.S. Army Tank Automotive Research, Development and Engineering Center

With summer temperatures reaching 130 degrees Fahrenheit, heat issues have become as serious as enemy fire for Soldiers performing day-to-day missions in Iraq.

To help reduce this serious health risk, the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) is attacking the pressing issue of extreme heat conditions inside military vehicles. Collaboratively TARDEC, headquartered at the Detroit Arsenal in Warren, Mich., Natick Soldier Center (NSC), U.S. Army Tank –Automotive and Armaments Command (TACOM), Program Executive Office for Combat Support & Combat Service Support (PEO CS &CSS), TACOM Safety Office, PM Air Warrior and Army Research Laboratory (ARL) are focused on heat relief to ensure that Soldiers successfully and safely complete their mission.

Intense heat temperatures inside the HMMWV fashioned into an evident issue upon the installation of the 2 and 4 door armor survivability kits (ASK) in existing HMMWVs in Iraq and Afghanistan. ASK is providing increased survivability to our deployed Soldiers, but it is unfortunately forcing temperatures in the HMMWV to reach beyond 100 degrees Fahrenheit. According to PM Tactical Vehicles, Soldiers could not properly complete missions due to the extreme heat and humid conditions leaving no choice but to find a quick solution to an increasing problem.

Initial installation efforts to cool the temperature of the HMMWV came from industry. Red Dot Corporation, a Seattle-based manufacturer and supplier of mobile heating and air conditioning systems for the heavy-duty and off-road industries, manufactured an air conditioning system that has been installed in theater to provide Soldiers with heat relief. The air conditioning system was created to satisfy the weight and space limitations of the HMMWV. Following evaluations of Red Dot's air conditioning system at Aberdeen Testing Center (ATC), it became evident that temperatures inside the ASK equipped HMMWV were still too high even with an air conditioning unit in place. A supplemental cooling solution needed to be derived to increase performance level and body comfort of Soldiers that were in ASK vehicles.

Applications began with a strict focus on getting something to the Soldier immediately. The interim solution was to use the Steele Vest that has been used by Navy Sailors who work in ships' hot boiler rooms. This vest contains freezable gel strips, similar to ice packs, which are placed in a pouch to cool the Sailor's body. In May 2004, Natick Soldier Center (NSC) conducted a human factor study to assess the affect of wearing the cooling vest on the sizing of the interceptor body armor. Army research indicated that the Steele Vest could be worn under an armored vest but it would only cover the Soldier's torso.

However, this quick fix solution became highly impractical for Soldiers in Iraq. The gel strips only lasted for 90 minutes, with Soldier missions lasting up to eight hours and no clear way to recharge the gel.

During ongoing research at Natick, TARDEC began to look at other current personal cooling systems that would act as supplements to the Red Dot air conditioning unit: the Liquid Cooling Vests and the Air Cooling Vest. Each vest was rapidly developed for near-term deployment.

Two Natick Microclimate Cooling Sub-Systems (MCSS), used in the Apache and Air Warrior helicopters, were investigated to see if they had the long-term solution to cool the HMMWV. The modified Apache style MCSS was evaluated for use in concurrence with the Red Dot air conditioning system. The liquid vest, manufactured by Foster-Miller Inc., utilizes the HMMWV's air conditioning unit to chill a fluid (water), which is then pumped into a microclimatic cooling garment (MGC). The liquid system consists of a heat exchanger, flow control assembly and the MGC. The flow control assembly consists of a pump, valve and manifold, which distributes the chilled fluid flow to four Soldiers. The chilled source pulls heat away from the Soldier's body, providing heat relief.



The integration of the Apache and Air Warrior MCSSs for the HMMWV and other tactical vehicles are being conducted at TARDEC. The Air Warrior MCSS is being evaluated for use in tactical vehicles that do not currently have any form of air conditioning. A review of the tactical vehicle fleet is a follow on task to determine whether supplemental cooling requirements exist for additional systems. The improved Apache vest system has been modified into a HMMWV unique system with the only remaining commonality being the garment. .

Concurrently, TARDEC performed and integrated on spot modifications to the Red Dot air conditioning system to adjust the air vest from the M1 Abrams cooling system to fit the HMMWV. This vest utilizes air from the Red Dot air conditioning unit. It uses tubing to connect the garment to the vehicle's air duct, which allows cool air to flow through the vest. This system has four connectors capable of supplying cool air to four individual Soldiers.

Assessments of the air-cooling systems are being performed at TARDEC's Propulsion Test Facility. The cooling systems are undergoing evaluations that involve high temperatures with solar effects to simulate similar environmental conditions that are found in Iraq. During the assessment, considerations were taken on how a Soldier's body would be affected moving from extreme heat to cold, making sure not to cause heat shock to the Soldier. Evaluations have shown that the liquid vest and the air vest both significantly reduce the body temperature of the Soldier.

Product configuration and final installation for prototypes was complete in only two months. In Aug 2004, 20 systems were fielded to Iraq – 10 air vest systems and 10 liquid vest systems with four vests per system. Upon their arrival, Lt. Col. Jeff Carr from PM Tactical Vehicles will provide instructional pre-briefs to Soldiers in Iraq who will be receiving the cooling kits. Additionally TARDEC has implemented an online survey system where evaluations of the cooling system can be made enabling feedback to be received immediately. This system provides TARDEC with the information and ability to address any issues that may arise before the kits arrive and fix any problems that may occur in the field.

Working toward a common goal has led this development to be a whole Army effort with tremendous emphasis on team unity. Serving as the integrators for this project, TARDEC engineers showcased their ability lead an implementation of systems rather quickly. The "Cool the Force" team became aware of an apparent need for the Soldier and rapidly developed a solution that was needed yesterday.

The cooling system kits are ready to be produced upon Soldier satisfaction. The anticipated reaction is to keep cooling the hot HMMWV.

Unmanned Systems Initiative Distributed Demonstration

U. S. Army Aviation and Missile Research, Development and Engineering Center

REDSTONE ARENAL, Ala. – In September, the Unmanned Systems Initiative (USI) conducted a distributed demonstration involving Ft. Benning, Ft. Rucker and Redstone Arsenal live and virtual unmanned systems.

The demonstration consisted of several air/ground combined arms combat vignettes woven into a campaign scenario designed to highlight and explore the growing utility of unmanned systems and their use in combat. The demonstration included actual sensor input from live Unmanned Ground Vehicles (UGV), and Unmanned Aerial Vehicles (UAV) as well as live-fire from armed UGVs at Redstone Arsenal. Live action was seamlessly inserted into the virtual network and distributed to pilots and dismounted soldiers participating in the distributed network at the three U.S. Army installations.

Standing up the distributed network, a major fiscal year 2004 objective for USI, was fully exercised and verified as part of the September demonstration. This persistent network provides the infrastructure necessary to realize the longer term USI thrust of collaborative unmanned systems RD&E utilizing virtual/live experimentation. The network includes: 1) UAV flight facilities approved by the Federal Aviation Administration for Hunter, Shadow 200 and smaller UAVs; 2) contiguous UGV operations-test facilities and missile firing ranges; 3) multiple simulation facilities with rapidly reconfigurable Army and Marine Corps aircraft cockpit designs, control systems linked to high fidelity UAV, UGV, and missile system simulations; and 4) Military operations in urban terrain (MOUT) facilities, all linked together in a distributed network designed to facilitate soldier-in-the-loop experimentation with advanced, integrated manned-unmanned collaborative systems concepts.



Unmanned Ground Vehicle (UGV)
demonstrating fire-on-the-move to commanded coordinates on Redstone Arsenal test range.



Live video feed from Raven performing battle damage assessment on Redstone Arsenal test range.

FY '05 USI objectives will focus on detailed experimentation that will build on the distributed network and demonstration just completed. New nodes are planned that will bring links to other research, development and engineering centers, the Air Force, and Navy as well as Joint Forces Command. Experimentation is being planned that will explore alternative tactics, techniques and procedures together with integration of new weapon systems concepts and interoperability solutions aimed at filling capability gaps. As an example, USI is collaborating with the Army's Space and Missile Defense Command Battle Lab (SMDC-BL) on related Unmanned Systems efforts. USI is also looking to capitalize on recent (29 Sept.) successes by Tank-Automotive Research, Development and Engineering Center (TARDEC) and AMRDEC in the area of fire control engagement technology (FC-NET), using common fire control to seamlessly integrate candidate Future Combat System (FCS) lethality platforms, sensor, and weapons. In addition, USI is working with the Army Research Laboratory (ARL) through the RDECOM Robotics IPT to ensure their extensive and forward reaching efforts are integrated with ongoing USI efforts.



In a similar fashion, USI is bringing the user and developer together in order to accelerate the transition of new weapons concepts and improved products with the right requirements to Product Managers and into the hands of soldiers in the field much quicker than ever before. In addition to working closely with the Redstone Arsenal-based Unmanned Aerial Vehicle Systems Project Office and Robotic Systems Joint Project Office, discussions are ongoing with the FCS Lead System Integrator (LSI) on how USI efforts may best compliment FCS unmanned air and ground systems.

(Submitted by U.S. Army Aviation and Missile Research, Development and Engineering Center Public Affairs Office)



Real-time rendering of Raven in virtual world.

Delivery Of Two Mobile Laboratory Systems Completed

Edgewood Chemical Biological Center

EDGEWOOD, Md.--The Edgewood Chemical Biological Center recently completed construction and delivery of two mobile laboratory systems for the U.S. Food and Drug Administration (FDA). Each system is comprised of three trailers. One sample receipt/preparation (BL2/BL3), one analytical, and one RV-type vehicle for administrative and rest activities.

The system will be deployed along border areas throughout the U.S. Its primary purpose will be to inspect foods such as produce and meats that are being transported into the country. The FDA plans a ribbon-cutting ceremony in Washington, D.C. in December and the system deployment is expected in early 2005.

ECBC has developed comprehensive (chemistry, biology, radiology, and high-explosive residue) transportable laboratories for other customers with national and international missions as well. ECBC provides field hardware, field methodology, and customer training, providing an analytical process that integrates disparate disciplines into comprehensive, turn key packages that can be deployed to remote regions with little or no logistical support and that produce data that withstands the most intensive and critical review.

The trailers are developed under the stringent requirements of ISO 9001/IEC Guide 17025.

(Submitted by Edgewood Chemical Biological Center Public Affairs Office)



Through an Interagency Agreement (IAA) signed in late 2002, the Food and Drug Administration (FDA) and ECBC partnered to design and build two three-piece mobile laboratory systems. They are developed under ISO9001 requirements.



A view inside the three-piece mobile laboratory system. The Food and Drug Administration (FDA) and ECBC partnered to design and build two.

Army Research Laboratory Named Laboratory Of The Year

U.S. Army Research Laboratory

ADELPHI, MD -- The Army Research Laboratory (ARL) has been named the 2004 Department of the Army Research and Development Laboratory (RDL) of the Year for large research laboratories.

ARL was selected from a strongly competitive pool, including scientific facilities from the Army Corps of Engineers and the Medical Command. The award was based upon a number of criteria, including excellence of staff, strategic management of human capital, state of facilities, the world-class nature of ARL research, significant research accomplishments, and support to the global war on terrorism.

"This honor is a testament to the entire ARL team, which is consistently at the forefront of Army science and makes invaluable contributions to our soldiers in the field," said John M. Miller, Director of ARL.

The achievement marked the first time ARL had received the award.

Among ARL's technical achievements in fiscal year 2003 were advances in machine perception, intelligent control, and human-machine interfaces for unmanned ground systems. These advances will result in a revolutionary capability to use unmanned ground systems to extend the reach of our soldiers and increase their survivability by keeping them out of harm's way.

In its presentation, ARL also focused on its work in developing materials to replace depleted uranium alloys, and the enhancement of magnetic sensors.

ARL was also recognized in the Collaboration category, for its efforts with the Tank-Automotive Research, Development and Engineering Center (TARDEC) for the HMMWV Armor Survivability Kit. ARL and TARDEC designed an armor upgrade retrofit for HMMWV vehicles, which is currently deployed and is saving lives in Iraq and Afghanistan. ARL scientists and soldiers were sent to combat areas to assist with the retrofit.

"This is truly a reflection of ARL's scientific and organizational excellence in support of the Soldier," said Leonard Huskey, ARL's Associate for Corporate Programs, who chaired the committee that drafted ARL's nomination package. "The award recognizes our across-the-board efforts to provide innovative science, technology and analysis to enable full-spectrum operations."

ARL officially received the RDL Award at the Army Acquisition Corps Annual Awards Ceremony on Oct. 24. Miller was informed of ARL's achievement on Oct. 11, after he had made ARL's presentation to the Army Laboratory Assessment Group Meeting on Oct. 6.

The RDL awards program was established in 1975 to honor Army research and development labs that have made outstanding contributions in science and technology. All 15 Army laboratories are evaluated annually.

In addition to the awards for large research laboratories and collaboration teams, the Army also announced awards for large development laboratories and small development laboratories.

(Submitted by U.S. Army Research Laboratory Public Affairs Office)

Safeguarding Biological Agents and Toxins

Edgewood Chemical Biological Center

EDGEWOOD, Md.--The U.S. Army Materiel Command called upon ECBC's surety experts—due to the Center's history and experience working with both chemical and biological warfare materials—to develop the guidelines for the proposed biosurety regulations. These regulations are being developed to ensure the safety and security of biological material in laboratory settings and to create standard procedures and documentation Army-wide.

This new regulation will apply to all U.S. Army laboratories and facilities as well as their contractors that work with or store biological select agents and toxins. We expect it to have a significant impact on ECBC and other organizations, as we will need to recertify biological material handlers and modify our SOPs to comply with the new regulations. At ECBC, implementation has already begun, as several plans have been developed to ensure the Center is in compliance.

AR50-XX is expected to be released this fall. The interim regulation is expected to be signed with an implementation date of April 25, 2005. Sites that cannot achieve full compliance during this time frame will have to request a waiver from the HQDA Deputy Chief of Staff, G-3. The waiver will explain why compliance cannot be achieved and list compensatory measures.

(Submitted by Edgewood Chemical Biological Center Public Affairs Office)



Researchers perform work with biological agents in ECBC's BSL3 laboratory under strict procedures and safety guidelines.

U.S. Army International Technology Center for the Americas Opens in Santiago

International Cooperative Programs Activity

SANTIAGO, Chile--The United States Army's newest International Technology Center (ITC) has officially opened in Santiago, October 14, 2004. General Paul Kern, commander of the U.S. Army Materiel Command, and his Chilean counterpart, Major General Enrique Slater, commander of the Metropolitan Region's army garrison and of the Military and Engineering Industry Command, officially cut the ribbon dedicating the ITC-Americas office.

Chile joins England and Japan as home to the U.S. Army's regional International Technology Centers. The office in Santiago, commanded by an Army colonel, administers branch offices in Argentina and Canada. Central and South America, Mexico, and Canada form the ITC-Americas operational zone.

The intent of ITC-Americas is to foster cooperative relationships between the U.S. Army and private sector, university, and civilian government research and development (R&D) entities that result in leading-edge scientific and technological cooperation that benefit the civilian institutions and support the U.S. Army's current programs and future goals.

The cooperation can take many forms, including information and personnel exchanges and joint projects. Linkages between civilian researchers and U.S. Army laboratories, research centers, and programs create synergies that benefit all parties.

ITC-Americas will draw on the resources of the U.S. Army Research, Development and Engineering Command (RDECOM) and the larger U.S. Army scientific community. In addition, ITC-Americas will work with U.S. Department of Defense elements such as the Office of Naval Research (ONR)-with which ITC-Americas shares an office in the U.S. Embassy in Santiago-and U.S. government agencies such as the National Air and Space Administration (NASA) and the National Science Foundation (NSF).

(Submitted by International Division, U.S. Army Research, Development and Engineering Command)



Gen. Paul Kern, commander of the U.S. Army Materiel Command and his Chilean counterpart, Maj. Gen. Enrique Slater, commander of the Metropolitan Region's army garrison and of the Military and Engineering Industry Command, officially cut the ribbon dedicating the ITC-Americas office.

Beach Balls, Puzzles, Letters and Such Keep Laboratory, Local Community and Soldiers in Touch

By Stephany Jaramillo
U.S. Army Research Laboratory Public Affairs Office

ADELPHI, MD -- Joyce McDonald, a procurement analyst at the Adelphi Laboratory Center has a son, Michael Stephen McDonald, Jr., 21, serving with the 362nd Military Police Detachment in Iraq. Michael enjoys receiving mail and shares it with his buddies because many of them don't receive mail from their families or from anyone in their hometown.

When she learned this, Joyce asked Michael to let her know if someone over there would like to receive mail or how she could help to keep up their morale and spirits when not on patrol. "I decided to help in any way I could," Joyce said. What began as one woman sharing a little caring from home soon became a community project as neighbors in the Beltsville, Md. community joined Joyce and her office co-workers.

Joyce's co-workers and neighbors knowing about Michael and caring that someone they actually knew was over there in harm's way, offered to bake cookies and brownies to send to Michael. But, according to Joyce, one guy can only eat so much and he shared the extras with his friends. Joyce then talked with the people in her office and they decided to write and send packages directly to any soldiers interested in being in touch with someone back in the states.

Joyce came across a website, anysoldier.com that lists names and addresses of soldiers in Iraq, and other troubled places around the world, who want to have personal contact with someone from home.

To make life more tolerable for those serving in Iraq, Joyce explained, "It's just a matter of going on the website and looking for the name of someone and matching it with something they can use or enjoy when not on patrol."

Joyce enthusiastically encourages others at ALC to send requested items: beach balls, puzzles, letters and such. Joyce, her family, neighbors and office co-workers gather the items requested by our soldiers. Crossword puzzles or something as simple as a newspaper or inflatable beach balls that they can toss around to each other in the sand, which they have plenty of outside the cities in Iraq, is all that may be necessary to let a soldier know you care. Once Joyce even sent some toys: yoyos, airplanes, small balls and sock puppets to the MPs in a war zone in Iraq.

"If someone donates books and magazines that they've finished reading, simply go on the web and find a soldier who has requested that item. A recurring request from several soldiers is for personal hygiene type items. A woman in the community, who works for a hotel company in the area, donated miniature soaps, shampoos and the like. Checking on anysoldier.com we chose one such request and sent a package to them," Joyce said. "The gift was greatly appreciated."

"We can never forget they are in harm's way. It's our way of supporting our troops. It helps them alleviate their stress. Writing a letter, sending the Sunday comics or a sports magazine is an easy way to show our gratitude for what they endure in combat. My son Michael writes that he and his buddies are often under mortar attacks that land near where he works and sleeps. He sent photos of cars and equipment that was destroyed because of surprise attacks by insurgents", she continued. One of the photos shows an off-duty MP in the foreground relaxing by joking around with sock puppets.

After receiving letters and gifts, the troops write back. Many of the notes are just simple "thank yous." One currently circulating in Joyce's procurement office is from a female soldier, a supply mail clerk, who recently received the items she requested for the unit she distributes mail to in Afghanistan.



Joyce McDonald and her co-workers at Adelphi Laboratory Center Procurement Office gather around a conference table full of items requested by soldiers in Iraq. Seated (from left) Christi Winkler; Donna Sheely; Terry Foley; Kathy Harrigan. Standing (from left) Jeannine Wheeler; Robin Stoltz; Joyce McDonald and George Gasch.

"Dear Contracting Office,
20 Sep 04

Hello, my name is SPC Well, Robin. I received the four packages that your office sent to A/1-62 ADA. On behalf of my fellow soldiers, thank you very much for all your support. I sent two of the packages to the guys of 1st Platoon in Tarin Kowt, and the other two to 2nd Platoon in Organi. I'm sure they will enjoy and appreciate what you sent.
Take care & keep in touch.

Sincerely,
SPC Well, Robin"

Another thank you note was sent from a soldier living in a tent in a remote village in Iraq:

"I would personally like to thank all of those who have recently contributed their time and efforts in what I believe to be an awe-inspiring and frankly quite dramatic display of support from the home-front. The correspondence and care packages have been coming in at an overwhelming and nearly monumental pace. The 'Any Soldier' campaign has seen tears from some, given hope to most, and has been inspirational to us all. Your relentless support has provided the simple reminder that any one of us would proudly die for a grateful nation in our ongoing fight against terrorism."

'Freedom is not Free'
Sgt Brian Horn"

Joyce recommends that anyone who wants to help out in some way can take a look at the website, anysoldier.com, and send a couple letters. If they have items, gifts and things, but don't know how to ship them, she and her committed office mates will see that they are shipped to any soldier requesting contact with home. Joyce can be reached at jmcdonald@arl.army.mil or contact Stephany Jaramillo at the U.S. Army Research Laboratory Public Affairs Office at (301) 394-4295.

This loving care they share with those stationed thousands of miles away came about not only because of a son in Iraq; not only because his mail is eagerly read by his buddies. It all came about because Joyce McDonald, a concerned mom, a Beltsville community resident and an ALC procurement analyst, and her co-workers care.

Exchange Unites Scientists From Around The World

Night Vision and Electronic Sensors Directorate

FORT BELVOIR, Va.--The differences between Japan and the United States are many: the island the Japanese call home is slightly smaller than California, while Americans simply consider California one small part of the much larger United States; the Japanese diet consists of small portions of rice and fish, while Americans prefer the all you can eat Atkins friendly buffet.

But through the participation of Research, Development and Engineering Command's Communications-Electronics Research, Development and Engineering Center's (CERDEC) Night Vision and Electronic Sensors Directorate (NVESD) in the Engineer and Scientist Exchange Program (ESEP), the gap between the two countries has been made that much smaller. The program allows scientists from foreign countries to come work at laboratories in the United States such as NVESD, and vice versa, in an effort to foster the exchange of ideas and offer a valuable learning experience for all parties involved.

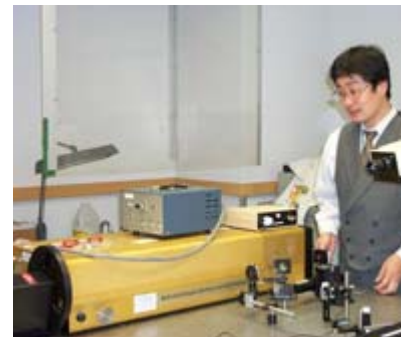
Dr. Kei Ota was one of the most recent participants in the program. Coming to NVESD in 2003, Ota fully immersed himself in life at the laboratory, working alongside members of the Science and Technology Division. In the span of a year, Ota accomplished an impressive list of achievements, including the measurement of parameters of lasers, the set up of a micro laser research facility, and the initiation of a new data exchange agreement between NVESD and the Technical Development and Research Institute, a part of the Japanese Defense Agency.

At his farewell ceremony and luncheon, Ota shared some of his research and reflections on his time in the United States. He presented a part of his briefing on the characterization of lasers using the micro laser research facility that he played a large part in developing. He will use the experience and research he collected while in the United States to author several technical papers when he returns to Japan. In his briefing he compared himself to a chef building a recipe. He spoke of the different steps he took in creating the lab as the ingredients: the preliminary research, the interviews of team members to find out their vision and goals for the facility, and finally analyzing and utilizing his available resources. He put all of his collected information together to create the final product, the laboratory; much like a chef mixes together all the ingredients to make his dish.

During his time at NVESD, Dr. Ota continually impressed his colleagues. Dr. Ward Trussell, who oversaw much of his work for the laser team, said, "I was impressed by the quality and quantity of his efforts. He was very well organized. He did a comprehensive literature search and also absorbed the technical papers that we provided him before beginning his efforts."

Fellow team member Glen Templeton was also impressed by Ota's productivity and drive. "[I was impressed that] Dr. Ota [was able] to accomplish so much in such a short time, with all the obstacles and challenges that must have come with working in a foreign country, both professionally and domestically," Templeton said. It was his strong work ethic that proved he was worthy of the title hanging outside of his office door: "Distinguished Visiting Scientist." Dr. Ota said, "[The title] was a great honor, but a lot of pressure at the same time."

Despite the pressure, Dr. Ota made time to enjoy the American culture outside of work. He brought his wife and two young sons along with him, both of whom learned to speak English fluently. "When they argue, they even argue in English!" Dr. Ota laughs. While in the United States, Dr. Ota learned to ski, an activity he very much enjoyed. He and his family were active in their community, joining neighbors regularly for potluck dinners, to which they were able to bring a taste of Japan. Dr. Ota also helped



During his time at NVESD, Dr. Kei Ota was kept busy helping to develop laser research facilities such as this one. Even though Dr. Ota has returned to Japan, his work will continue to benefit the NVESD Science and Technology laser team.



smooth the transition to American life for future visiting scientists by preparing a notebook full of pertinent information about life in the U.S., such as getting a drivers license, buying a car, and finding a place to live.

Although Dr. Ota's time at NVESD has ended, his presence will remain even after he has returned to Japan. His contributions to the laboratory will continue to benefit the laser team as they develop and create new technologies and conduct research into micro lasers.

His visit further proved the benefits to both parties involved with the ESEP program and is an experience NVESD hopes to soon repeat with other scientists from abroad.

(Submitted by Night Vision and Electronic Sensors Directorate Program Information Office)

Firefighting Experts Discuss Changes In Requirements

U.S. Army Soldier Systems Center-Natick

NATICK, Mass. -- Typically, firefighters no longer just battle a flame-engulfed structure while heroically rescuing victims from the inferno-they're increasingly entering multi-hazard or violent environments.

To keep pace with changes in the field, 11 firefighting experts from across the country assessed firefighting requirements during a workshop panel Sept. 1-2 in Arlington, Va., and reviewed the results of a two-phase study funded by the NASA Ames Research Center and U.S. Army Natick Soldier Center (NSC) through their National Protection Center-partnered program.

Supported by U.S. Fire Administrator R. David Paulison and U.S. Surgeon General Vice Admiral Richard H. Carmona, the goal was to gain a better understanding of collective federal efforts to support fire service professionals who are spending a declining percentage of their time fighting fires. They also looked into defining operational requirements that impact the ongoing Department of Homeland Security (DHS) lead in research, development and engineering projects or multi-agency technology transfer efforts.

"It is not our job to address the firefighter culture but to be responsive to the demands for technology transfer," said John Hines, NASA Ames Research Center manager of advanced molecular technology and National Protection Center co-founder. "That includes our expertise in human performance in space and optimizing that performance as well as 'hardware,' regardless of the culture and whether cultural change will occur or not."

The Natick Soldier Center has been focused on treating Soldiers as a whole, what is called a "human-centric, system of systems" approach to enhance mission capabilities, and improve their safety and quality of life regardless of the mission. Discussions included assessing how a system of systems approach can apply to Homeland Security Operations.

By treating the human as a whole, researchers are able to identify vulnerabilities in the interfaces between this human system and other sub-systems, including other supporting platforms, said National Protection Center Director Rita González.

"At the end of the day, it will still be a human being carrying that victim or conducting triage," she said. "The approach, a cornerstone of Army Transformation, is a significant paradigm shift for the fire culture." In pre-conference discussions, National Protection Center team members discussed the importance of measuring the current state of technology to determine if deficiencies are really in the lack of technology or understanding of the strengths and limitations of technology.

Panelists looked at past studies to identify trends in developing firefighter requirements. They highlighted how terrorist threats are emphasized and advanced technology is heralded as the ultimate solution to many of the challenges.

"It is as important to understand the impact of current equipment on the user and how the equipment is used as addressing the need for technology," said Philip Brandler, director of the NSC. "We have learned that oftentimes technology does not provide the solution to many of the battlefield challenges. Doctrine and training are just as critical."

González added, "We want to better understand how technology will be used so we can be responsive when the requests for technology or expertise come in."

One major assumption is that firefighters spend most of their day fighting fires or tending to hazardous materials environments, when in reality, medical emergencies comprise the majority of fire service responses.

The main threat on medical emergencies and accidents is violence from patients, angry bystanders or terrorized victims. Panelists agreed that studies focused on the "Sept. 11" firefighters in their traditional gear and not enough attention on the other facets of the firefighting profession or on their emergency medical mission. Panelists were joined by a group of observers from DHS Office for

Domestic Preparedness, DHS Office of Science and Technology, Memorial Institute for the Prevention of Terrorism, Navy Clothing and Textile Facility and Office of the Secretary of Defense.

(Submitted by U.S. Army Soldier Systems Center-Natick Public Affairs Office)

The Success of 'Partnering'

U.S. Army Aviation and Missile Research, Development and Engineering Center

HUNTSVILLE, Ala.--Over the past several years, ITEA and Army Test and Evaluation (T&E) Days have experienced success individually with their annual conferences. Army T&E Days has a widespread audience of industry and government workers coming together to hear updates on test policies, and share information. ITEA has a reputation of bringing together their membership, industry, and academia folks to foster, preserve, and advance the art and science of test and evaluation.

The Test and Evaluation Management Office, Aviation and Missile Research, Development, and Engineering Center at Redstone Arsenal host the Army T&E Days each year in Huntsville, Ala. The 2004 annual ITEA symposium fell on the Rocket City Chapter, Huntsville, Ala. and the Volunteer Chapter, Tullahoma, Tenn. Therefore, it seemed only logical that both sponsors be approached by the chapter presidents to form a 'one-time' partnership.

Dr. John B. Foulkes, director Test and Evaluation Management Agency, and sponsor of Army T&E Days, and Dr. Alan Plishker, director of ITEA, agreed that partnering would present a unique opportunity for two extremely influential communities to come together and present a unified technical program to discuss and address the challenges that face the professional industry, government, and academia test community involved in supporting our nation against aggression and terrorism.

The partnership effort resulted in "Test Week 2004" held Aug. 30-Sept. 2 in Huntsville, Alabama with two diverse themes leading the agenda: "Testing in Support of Joint Operations" and "Test and Evaluation: Integral to the Systems Engineering Process."

This initiative would be a first for ITEA and Army T&E Days. The technical staffs of ITEA, the T&E Days team, and the volunteers from both chapters were assembled to execute a unified way of organizing this event. The technical staff of ITEA maintained the registration process, the T&E Days team maintained the exhibit process and facility requirements, and the volunteers from both chapters organized the traditional ceremonies of each conference.

The planning committee was co-chaired by Michael T. McFalls, president of the Rocket City Chapter (and Test & Evaluation Manager for AMRDEC) and R. Lee Parker, president of the Volunteer Chapter. Technical programs were established by Dr. John B. Foulkes, Van Sullivan and Dr. Edward Kraft. The exhibition was led by Milt Strickland and Marshall Arney, all ITEA members. With the themes established by the two sponsors and each conference developing their own technical program, the planning committee took on the challenge to ensure an environment for providing dynamic government, legislative and commercial industry speakers for this combined event.

The Army T&E Days technical program developed by TEMA started off with Lt. Gen Robert W. Wager, deputy commander, U.S. Joint Forces Command, and was followed by the panel on Joint Testing and Training led by Mike Crisp, deputy director, Air Warfare. In tradition with Army T&E Days, the PEO/PM feedback panel led by Col. Pat O'Reilly, PEO CS&CSS, TACOM provided facts from a PM's point of view on how the test community has operated in the last year.

The support of Walter W. Hollis, DUSA(OR), each year for Army T&E Days is noteworthy and this year was no exception. Hollis spoke to the audience on his views regarding testing in support of joint operations. And with the cancellation of the Comanche Program in 2004, hearing from Paul Bogosian, PEO Aviation on the future of Army Aviation was indeed captivating.



Test Week 2004 brought in over 673 attendees to the technical program from across the globe, with an additional 463 exhibitor personnel manning the 110 exhibits.

The ITEA technical program started with a legislative representative to speak and provide views on national security. Rep. Lincoln Davis from Tennessee spoke to the audience and expressed the country's gratitude to all supporting the fight against terrorism. The audience was provided the opportunity to hear different views from other services through Dr. Michael McGrath, deputy assistant secretary of the Navy and Brig. Gen. Jacques Sauvaget, Armament Corp, France.

With emphasis on hearing from commercial industry, a panel was assembled from various sectors of the automotive industry. The panel was lead by Doug Cook, vice president and director of automotive operations, Jacobs Sverdrup Technology. The panel presentations shared how the auto industry is resolving many of the same issues faced in government T&E.

Sharing ideas and the way of doing business is part of the ITEA mission statement. This panel was well received by the audience. The emphasis continued and broadened beyond the Department of Defense by incorporating NASA's views on T&E. Robert L. Sackheim, Assistant Director and Chief Engineer for Marshall Flight Center, NASA presented an intriguing way of doing T&E business through aerospace.

Both ITEA and Army T&E Days incorporate into their programs a day of tutorials, a golf tournament, and an exhibit. This year the golf tournament boasted 118 players, and the day could not have been better weather wise. And as an added bonus, a bike ride was led through the Redstone Technical Test Center and NASA test areas on Redstone Arsenal by the Spring Cycling Club for those attendees not participating in the tutorials or golf tournament. With such a beautiful day to bike ride, over 39 bikers took to the road led by our sponsor, Dr. Foulkes and Research, Development and Engineering Center's Director, Dr. William McCorkle. Four dynamic tutorials were held with discussions ranging from Interoperability Across Range Systems, Designing Complex Reliability Block, Modeling and Simulation Acquisition Programs, and Developing Test and Evaluation Management Plans. Attendance was an all time high with 121 participating in the classes.

And last but certainly not least, the exhibition was tremendous this year. There were 110 organizations (industry, academia, and government) displaying their capabilities and hardware. The forum also enabled the U.S. Army Developmental Test Command to set up a Distributed Test Event, which linked a live test to all the test centers for the audience to preview.

The social events for this partnership were powerful, with a kickoff reception sponsored by the Mayor Loretta Spencer, Huntsville, Ala. The traditional Army T&E Days exhibit reception was a highlight for the attendees and exhibitors. It offered to all the opportunity to leisurely stroll and network with the many exhibitors.

Overall, Test Week 2004 brought in over 673 attendees to the technical program from across the globe, with an additional 463 exhibitor personnel manning the 110 exhibits.

The continued outstanding support from AMRDEC and the Test and Evaluation Management Office, has influenced the sponsor of Army T&E Days to commit the Army T&E Days Conference here in Huntsville for the next three years.

Congratulations to the planning committee for Test Week 2004, and to the Test & Evaluation Management Office, AMRDEC, for their exceptional contributions to this effort.

(Submitted by the Test and Evaluation Management Office, U.S. Army Aviation and Missile Research, Development and Engineering Center)

Workshop Sparks Ideas For Future Automated Technology

By Tonya Johnson
U.S. Army Research Laboratory Public Affairs Office

Soldiers will have better automated tools on the future battlefield with the help of scientists and engineers at the U.S. Army Research Laboratory and their partners in academia and industry.

ARL co-sponsored a workshop with Morgan State University Oct. 19-22 at the Harbortowne Conference Center in St. Michaels, Md., to discuss ways to improve knowledge fusion. Knowledge fusion is a multidisciplinary research area that works on developing automated systems and tools to gain timely knowledge and understanding about battlefield objects, their relationships, actions, and intentions. Knowledge fusion deals with complex issues, requiring collaborative efforts that typically involve engineering, computing, and human factors sciences.

Increasingly, vast amounts of intelligence and sensor data, as well as public data from databases and the Internet, support decision superiority. Today, it is very hard to quickly determine what all that data means relative to a specific situation. Knowledge fusion research focuses on using advanced information technology to help the commander and soldier determine how the battle is going and what will happen next.

"We hope to give all echelons better automated tools to help them quickly make sense of the information coming their way, to get a good understanding of their situation, and to help them predict the behaviors and intent of their adversary," said Dr. Dana Ulery, organizer of the workshop and the ARL program manager for the Army Knowledge Fusion Center. "We want to provide them with real-time tools that can help figure out what's happening in an urban neighborhood or predict what the adversary is going to do next."

Some of the technologies that are a part of knowledge fusion include ARL's Warrior's Edge mobile Local Fusion Node and Tactical Gateway for moving unclassified data from local nodes to the collateral space via secure communications, ARL's Basic Language Translation Services, and models for forecasting events in urban environments, currently used to predict improved explosive device (IED) threats. ARL's Battlefield Organic Robotic Grid (BORG) for researching real-time attack answer tools using knowledge fusion technologies such as intelligent agents and Internet technologies is underway at Morgan State.

The workshop brought researchers together from various backgrounds, including intelligence analysis, military operations, and homeland defense, who could make recommendations on how the Army can advance the study of knowledge fusion. Participants included researchers from academia, industry, and other Army organizations.

"We were excited to have soldiers attend the workshop this year because they were able to give us valuable input and realistically describe in detail what soldiers and commanders need in the field," said Ulery.

This was the second year of the workshop and Ulery is pleased with the suggestions and recommendations the participants provided about improving the knowledge fusion program.

"A major goal of the workshop was to gain a better understanding of how research technology advances from multiple fields contribute to knowledge fusion and to explore different perspectives of how to take the research to the next level. Taking into account the different perspectives from across contributing disciplines is crucial to developing an effective and holistic solution to the Army's complex challenges," said Ulery. "The other major goal was to encourage minorities and women to participate in this research and give them an opportunity to socialize with leading researchers in this area."

Morgan State is one of several universities that collaborate with ARL on knowledge fusion. The school is home of the Knowledge Integration and Management Center of Excellence (KIMCOE), which was established in Spring 2003. Morgan State is one of the top five minority institutions that graduate the most African-American engineers nationwide and the school is the top producer of African-American engineers in Maryland.



"The Army recognizes it has a basic need for this center," said Dr. Douglas Brown, acting deputy director for the Computational and Information Sciences Directorate at ARL. "Working with Morgan State and other partners in academia and industry allow us to brainstorm and create better products for the soldier."

"It's important to work with these college students because they are key to solving some of the Army's challenges," added Ulery. "Many of these students may not serve in the military, but they serve their country with their minds."

Soldier Organizes Drive That Sends Two Tons of Care Packages Overseas

By Daphne Hart

Communications-Electronics Research, Development and Engineering Center Public Affairs Office

FORT MONMOUTH, N.J.--What started as a way for Sgt. Harvey "Rusty" Caldwell to help a few of his buddies in Iraq turned into something that will help nearly 60 of his fellow soldiers.

Caldwell, a shop foreman at the Communications – Electronics Research, Development and Engineering Center's (CERDEC) Intelligence and Information Warfare Directorate (I2WD), organized an unofficial care package drive that resulted in more than 4,000 pounds of goods being sent overseas.

The idea for the drive came about after Caldwell returned from Iraq wanting to do something for those who remained abroad.

His solution was to talk to some of his co-workers to see if they would be interested in donating items that he found himself missing or wanting during his deployment.

While on his own time, Caldwell contacted soldiers still in Iraq and asked them to put together a "wish list."



Members of Boy Scout Troop 29 from Tom's River, N.J. help sort the more than two tons of items donated as part of the CERDEC's unofficial care package drive.

While most of the items were generic, there were a few specific requests.

"You can get tons of Oreo's, but you can't get Nutter Butters," Caldwell said. "You can get Crest, but you can't get Colgate."

One item not on the list was baby wipes.

"Everyone sends baby wipes," Caldwell laughed. "But the soldiers live in trailers and have showers."

They also have video game and DVD players, so video games and movies made the list as well.

Word of the list soon got out and the drive that started in his office quickly spread through I2WD, then the CERDEC and even to some entities outside of New Jersey

In fact, the response from the entire Fort Monmouth community was so overwhelming that two local Boy Scout Troops, 29 from Toms River, N.J. and 155 from Freehold, N.J., volunteered to help with the packing.

When that day arrived, the Boy Scouts, along with soldiers from the CERDEC and some civilian volunteers, including I2WD Deputy Director Jan Moren, spent hours sorting, inspecting and packing the goods into 145 boxes.

"I only expected to send, at the most, maybe 50 boxes," Caldwell said. "I never expected to need a forklift to move 10 pallets of packages."

Those exceeded expectations led to an interesting problem: Caldwell had more packages than he had soldiers to send them to. But, he soon found the perfect solution.

"I asked my friends for the names and addresses of soldiers who don't get a lot of mail,"

Caldwell said. "About 15 to 20 soldiers have no idea that a box is coming their way."

"The bottom line is that we want to show our appreciation for the great job the Warfighters are doing," I2WD Director Anthony Lisuzzo said. "While I2WD did not officially sponsor this drive, we are very proud to be affiliated with it."

Caldwell echoed that statement.

"I just want to thank everyone who donated," Caldwell said. "In our realm, a lot of time we're worried about the product we're putting out rather than who we're putting the product out for. We always talk about the mission, but sometimes the soldiers themselves are overlooked and you have to support them first. This was our way of doing that."



Boy Scouts, soldiers and civilian volunteers packed snack food, coffee and sports equipment into 145 care packages that are being sent to nearly 60 soldiers in theater.



Karl LaSala and Sgt. Harvey Caldwell of the CERDEC's Intelligence and Information Warfare Directorate hold a banner in front of some of the more than 4,000 pounds of donated goods that were sent to soldiers in Iraq and Afghanistan.

ARL Receives 38 RDA Awards

By Paul Schmitt

U.S. Army Research Laboratory Public Affairs Office

ADELPHI, MD -- Thirty-eight employees of the Army Research Laboratory have been named as recipients of the 2004 Army Research and Development Achievement Award for proven scientific and technical excellence.

Thomas H. Killion, deputy assistant secretary of the Army for research and development, announced the 2004 RDA Award winners Sept. 17. He noted that the work of all of the recipients "promise to improve the Army's capability, and to enhance our Transformation from the Current to the Future Force."

The awardees participated in 11 separate projects, including the uniform gun barrel reshaping initiative, an armor survivability kit for HMMWVs deployed in Iraq and Afghanistan, and RPG armor for Stryker.

"Their hard work and dedication brings great credit to themselves, the U.S. Army Materiel Command, and the U.S. Army," Killion added.

One of the most prominent projects receiving recognition was that of Michael J. Keele, Maj. Daniel Rusin, and Michael J. Manceor for work on the High Mobility Multipurpose Wheeled Vehicle (HMMWV). Beginning in August 2003, the group investigated various protective options for the vehicle, and worked with TARDEC to further develop and implement the protective upgrade. By early April 2004, over 4,000 of these kits had been installed on vehicles serving in Operation Iraqi Freedom (OIF).

Another important project was the Uniform Gun Barrel Reshaping Initiative, through which a method was developed for making gun barrels 20 times more uniform than in the past. This improvement will greatly increase the accuracy of munitions. ARL scientists Thomas Erline, Mark Bundy, James Garner, David Webb, and Robert Kaste all received recognition for this achievement.

In addition, ARL's Michael Zoltoski received a Leadership Award for his work on survivability technologies for the Abrams, Stryker, and HMMWV vehicles, among others.

A total of 30 projects from the U.A. Army Materiel Command were selected as RDA inners, along with five individual leadership awards. The awardees will be presented with a plaque during the 24th Army Science Conference, scheduled for 29 Nov. – Dec. 2 in Orlando, Fla.

ECBC Employee Honored by the U.S. Army Materiel Command

Edgewood Chemical Biological Center

EDGEWOOD, Md.--Ray Mastnjak, a supervisory safety engineer and supervisory health physicist with the Edgewood Chemical Biological Center (ECBC), has been honored by the U.S. Army Materiel Command (AMC) by being named one of the Ten Outstanding AMC Personnel of the Year. Mastnjak received the award in a ceremony held last month at ECBC's offices on the Aberdeen Proving Grounds, Edgewood, Md.

The prestigious award allows AMC personnel, both military and civilian, to compete for formal recognition at the Headquarters level. It recognizes outstanding work accomplishment that not only has been highly exemplary and an inspiration to others, but has significantly contributed to the Command's missions and operational responsibilities. In addition, it identifies and recognizes AMC personnel who, in the daily performance of their assigned duties, have come to stand out as model workers among their fellow employees, and could be considered a representative of the ideal AMC employee.

Mastnjak was recognized for his continual demonstrations of outstanding leadership through his utilization of state-of-the-art management approaches, which have resulted in establishing program priorities and ensuring completion of goals in one of the AMC's highly technical environments.

(Submitted by Edgewood Chemical Biological Center Public Affairs Office)



Maj. Gen. John C. Doesburg, former commander of the U.S. Army Research, Development and Engineering Command congratulates Ray Mastnjak, supervisory safety engineer and supervisory health physicist with the Edgewood Chemical Biological Center (ECBC), after presenting him with the Ten Outstanding AMC Personnel of the Year award on behalf of the U.S. Army Materiel Command.

It's Not Easy Being Green

By Marna Palmer
Night Vision and Electronic Sensors Directorate

FORT BELVOIR, Va.--Flying around in Blackhawk helicopters, navigating through thick woods in darkness, and camping out under the stars are not usually in the job description for a government position. But for 20 interns at the US Army Research, Development and Engineering Command, Communications-Electronic, Research, Development Engineering Center, Night Vision and Electronic Sensors Directorate, that is what going to work meant for four days in late August.

They were the first interns to take part in the inaugural NVESD Greening Course. Months of planning culminated in an unforgettable experience for the interns. The four-day course began at NVESD with an introduction to the military and military hardware, but the fun began the morning of the second day.

The interns went down to the U.S. Marine Corps' Night Integrated Training Environment (NITE) facility, which consisted of an obstacle course negotiated with the help of night vision goggles. After that, they boarded Blackhawk helicopters and flew down to a U.S. Army test site to spend three days in the woods. There, they were introduced to the day-to-day life of Soldiers.

They put up their own tents and were up with the sun for a breakfast of Meals Ready to Eat (MRE's). Following chow, the interns were handed a compass and map and told to find three set points by using a pace count they determined. A few hours later the troops returned red faced and smiling, with sweat soaking their Battle Dress Uniform.

Afternoons were spent testing military vehicles and getting hands-on experience with some impressive weapons. They also participated in a road march, bogged down with heavy packs, and got up early for some morning physical training. The four days were action-packed, the temperature was rising, but not once did any of the engineers complain or quit.

In addition to the lifestyle, they embraced the spirit and tenacity of Soldiers. The course was designed to give the interns a taste of Soldier life to be kept in mind as they design night vision devices. Remembering the misery of carrying a heavy pack while trudging through the 90 degree heat will undoubtedly influence their weight and bulk considerations as they develop future systems. Seeing their work in action was an eye-opening experience and gave the interns a greater understanding of the day-to-day lives of the Soldiers. Being green was an experience that benefited the interns both personally and professionally.

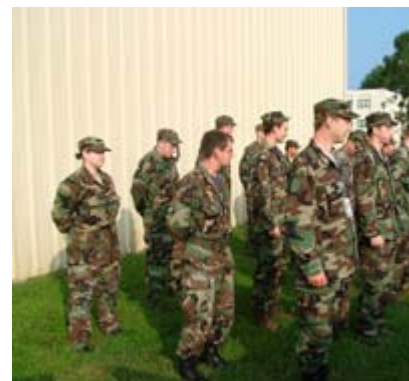


Photo by Marna Palmer
The interns of Night Vision and Electronic Sensors Directorate gear up for their taste of soldier life.



The interns learned that PT meant more than just running. Resistance training is another large part of a soldier's PT regimen. The NCO's showed the interns some resistance exercises that they regularly do while in the field, no gym required.

Picatinny Employees Recognized By Federal Executive Board

U.S. Army Armaments Research, Development and Engineering Center

PICATINNY, N.J.--The Federal Executive Board of Metropolitan Northern New Jersey honored three Picatinny employees at the organization's annual awards breakfast in Newark on Oct. 7.

John Policastro, Ernesto B. Vazquez and Mark J. Zhelesnik were among eighteen federal workers who received 2004 FEB awards from the chapter. The board awarded Policastro its 2004 Initiative Award for his efforts to streamline the business practices of his organization. Policastro is a lead contract operations analyst for Defense Contract Management Agency Springfield. The board recognized him for recognizing, drafting and implementing four process improvements within the DCMA Springfield contract operations group here.

Vazquez was named outstanding federal employee of the year by the board. He shared the award with Ranjana Patel of the Customs and Border Protection. An aerospace engineer in the Armament Research, Development and Engineering Center, Vazquez was cited for making military firing ranges safer for the public at large. His also was recognized for his community service. The board selected Zhelesnik as its 2004 supervisor/team leader. A mortar fire control product development manager in ARDEC, he was recognized for his role in leading a team that successfully developed and delivered a new ballistic computer to American Soldiers in Iraq in response to an urgent requirement there.

The FEB is made up of representatives from all of the federal agencies that are located in the region. It helps Washington, D.C., and federal field offices exchange information about federal programs, management strategies and administration.

The board also encourages employee initiative and better performance through special recognition and other incentive programs and manages the region's yearly Combined Federal Campaign.

The awards were presented to the recipients by the organization's chairman Brian W. Tait, director of the N.J. Service Center of the General Services Administration, and Awards Committee Chairwoman Andrea J. Quarintillo of the U. S. Customs and Immigration Service.

(Submitted by U.S. Army Armaments Research, Development and Engineering Center Public Affairs Office)



The Federal Executive Board of Metropolitan Northern New Jersey honored three Picatinny employees Oct. 7. From left: John Policastro, Mark J. Zhelesnik and Ernesto B. Vazquez .



Picatinny Employees Recognized With Top Army Prize

U. S. Army Armament Research, Development and Engineering Center

PICATINNY, N.J. -- Twenty-three Picatinny employees will receive this year's top Army prize for research and development, Deputy Assistant Secretary of the Army for Research and Technology Thomas H. Killion announced Sept. 17.

The 23 scientists and engineers are among 96 Army employees from 11 different organizations Killion named as this year's recipients of the 2004 Army Research and Development Achievement Awards.

The awards are presented each year to Army scientists and engineers whose outstanding efforts significantly advanced capabilities and contributed to the national defense.

The recognition is significant because the awards recognize outstanding innovation and are the highest recognition an Army researcher can receive, explained Armament Research, Development and Engineering Center Director Michael P. Devine.

"Having this many awardees at ARDEC is a tremendous kudos for the organization and further tribute to the dedication and quality of our workforce," he said.

Picatinny winners represent nine different research and development programs underway here and another based at the U. S. Army Research Laboratory, Adelphi, Md.

"What ARDEC is all about is innovation--bringing new ideas, new technologies forward rapidly into capabilities for Warfighters," Devine said.

The winners will be honored in December during the 24th Army Science Conference in Orlando, Fla.

Army Research and Development Achievement Awards – fiscal year 2004

- Gary Chen and Mark Motyka were awarded the Army R&D Achievement Award for the development of perchlorate-free and environmentally compatible pyrotechnic compositions for flash-bang training rounds. It eliminated the potential risk to military readiness associated with restricted use of perchlorate.
- Edward J. Hyland, Joseph Kurowsky and Dr. Andrew G. Littlefield were awarded The Army R&D Achievement Award for development of the multi-role armaments and ammunition system swing-chamber cannon. New high-strength, high-toughness steel was used in the 105 mm cannon.

Picatinny Employees Recognized:

- Dr. Donald Carlucci was awarded the Army R&D Achievement Award for leadership in establishing unique capabilities for engineering modeling and simulation and failure analyses of the gun-fired projectile environment.
- Steven M. Nicolich, Dr. Christos Capellos and Wendy Balas were awarded the Army R&D Achievement Award for developing breakthrough aluminized explosives technology for enhancement of multipurpose warhead lethality.
- Dr. Ernest L. Baker was awarded the Army R&D Achievement Award for leadership in developing an extremely lethal bash-through warhead for the precision guided mortar munitions.
- Edward Troiano, Gregory N. Vigilante and John H. Underwood were awarded the Army R&D Achievement Award for their work on hydrogen management in armament materials. Their research provided understanding of hydrogen behavior and hydrogen-induced cracking to solve critical component failures.



- Dr. Ernest L. Baker, Arthur Daniels and Tan Vuong were awarded the Army R&D Achievement Award for developing breakthrough shoulder-fired warhead technology for urban conflicts. They combined the anti-armor and anti-bunker warhead into one warhead.
- Henry T. Rand, Jr., Jason Travaille, Anthony Martuccio, Gerald Marek and Keith Luhmann were awarded the Army R&D Achievement Award for the improvements to the 120 mm mortar ignition cartridge.
- Gary Chen and Victor Sun were awarded the Army R&D Achievement Award for the development of moisture-resistant black-powder substitute and methods for its production in granular or pellet form and the resulting ballistic properties.
- Vincent J. Olmstead – Uniform Gun Barrel Reshaping Initiative (joint award with ARL). The Uniform Gun Barrel Reshaping Initiative, funded through the Army Materiel Command ManTech Program, designed, tested and successfully demonstrated barrel-reshaping hardware capable of making gun barrel centerlines exactly the same, to within measurement error. Furthermore, it was shown that there was no adverse effect on Soldier safety or degradation in barrel life from adopting the technology. Moreover, it was unequivocally proven that producing a fleet of uniformly shaped barrels will provide a tremendous increase in the probability of a hit. Additionally, war game analysis was conducted to illustrate how the Soldier benefits from this technology, revealing that it in all combat scenarios modeled a fleet of uniformly shaped barrels substantially boosts the loss-exchange ratio of our armored force. This technology has won the acclaim of the Army Material Systems Analysis Agency, the Training and Doctrine Command System Manager Abrams, as well as the program managers for Maneuver Ammunition Systems and Combat Systems. It is also looked upon favorably by the Systems Development Demonstration study group for the future Maneuvering Combat System.

(Submitted by the U.S. Army Armaments Research, Development and Engineering Center Public Affairs Office)

Historic change of command ceremony conducted at Aberdeen Proving Ground

EDGEWOOD, Md.—The U. S. Army Research, Development and Engineering Command conducted its first change of command ceremony Oct. 28, 10 a.m., as Maj. Gen. John C. Doesburg relinquished command to [Brig. Gen. Roger A. Nadeau](#) on Aberdeen Proving Grounds Fanshaw Field.

The U.S. Army Research, Development and Engineering Command (RDECOM), headquartered at Aberdeen Proving Ground, Md., became “official” March 1, after its concept plan was approved by the Department of the Army.

RDECOM consists of more than 17,000 military and civilian personnel and full-time contractors, who are charged with moving technology out of the laboratories and into the hands of Warfighters as quickly as possible. RDECOM is responsible for 75 percent of the Army's science and technology objectives. The command seeks out and develops the latest technology to provide the most advanced weapons, communication, clothing, food and vehicles, using 110 direct liaisons to the field, and more than 300 international agreements. RDECOM brings together laboratories and research and engineering centers nationwide.



Brig. Gen. Roger A. Nadeau accepts the U.S. Army Research, Development and Engineering Command's colors from Gen. Paul Kern, commanding general, U.S. Army Materiel Command, Oct. 28 at Fanshaw Field, Aberdeen Proving Ground, Md.

(Submitted by U.S. Army Research, Development and Engineering Command Public Affairs Office)

Gen. Benjamin Griffin Becomes 16th Commander of AMC

FORT BELVOIR, Va.--Gen. Benjamin S. Griffin assumed command of the U.S. Army Materiel Command today in a ceremony at Fort Belvoir's Long Parade Field. Army Chief of Staff Gen. Peter J. Schoomaker hosted the event.

As Griffin assumes command, Gen. Paul J. Kern steps down as AMC commander, having been in the position since October 2001.

Griffin, who was promoted to the rank of general prior to the change of command, is coming from the Pentagon after serving three years as the Department of the Army Deputy Chief of Staff, G-8. He brings with him a vast amount of operational knowledge and expertise.

Griffin's major duty assignments include: commanding general of the 4th Infantry Division (Mechanized) in Fort Hood, Texas; commanding general of Joint Task Force 6, Fort Bliss, Texas; commander of the 2nd Brigade, 6th Infantry Division in Fort Wainwright, Alaska; commander of the 3rd Battalion, 8th Infantry Regiment, 8th Infantry Division in Germany; and company commander in the 82nd Airborne Division, Fort Bragg, N.C.

In addition, Griffin has received several awards and decorations during his 34 years of service including: the Distinguished Service Medal, the Defense Superior Service Medal, the Legion of Merit (with three Oak Leaf Clusters), the Meritorious Service Medal (with four Oak Leaf Clusters), the Army Commendation Medal (with an Oak Leaf Cluster), and the Army Achievement Medal (with an Oak Leaf Cluster).

Griffin, who was commissioned in July 1970, received a bachelor's degree in Business Management from Old Dominion University in 1969 and a master's degree in Business Administration from Mercer University in 1981. He is a native of Emporia, Va.

(Submitted by U.S. Army Materiel Command Public Affairs Office)

Hundreds Drawn To TARDEC/RDECOM Exhibition Booth

U.S. Army Research, Development and Engineering Command

WASHINGTON—Hundreds of conference goers streamed through the U.S. Army Tank Automotive Research, Development and Engineering (TARDEC) and U.S. Army Research, Development and Engineering Command's (RDECOM) exhibition booth during the 2004 Association of the United States Army's Annual Meeting and Exhibition 25-25 Oct in Washington.

The AUSA Annual Meeting, the world's largest land-power forum, brought together America's Army. Active, Guard, Reserve, retirees, family members and civilians experienced the best of today's Army.

Some of the other technologies TARDEC showcased included a fuel cell-battery hybrid Alternative Mobility Vehicle (AMV), a next-generation Personal Transport Vehicle (PTV) and the Stryker Battle Command on the Move.

Alternative Mobility Vehicle (AMV)

The National Automotive Center (NAC) has partnered with Quantum Technologies to build a fuel cell-battery hybrid AMV that gives our Soldiers better acceleration, more speed and the ability to maneuver in stealth mode when operating on battery power alone. The AMV couples a 10 kW proton exchange membrane fuel cell to an Energy Conversion Device (ECD) nickel metal hybrid battery pack, and runs on compressed hydrogen stored at 5,000 psi in Quantum's proprietary type IV carbon fiber tanks.

Personal Transport Vehicle (PTV)

A component of the NAC's Personal Soldier Mobility Program, the American Chariot PTV is designed to provide dynamic, efficient personal Soldier transportation options for the armed services. Potential applications for the PTV include moving personnel around large military bases, airfields, warehouse and supply facilities and large naval vessels. The PTV can also be used for military law enforcement to increase productivity and enhance crowd control. The vehicle's speed, maneuverability, accessibility, range and zero down time needed for recharging make it ideally suited for today's mobile military.

Stryker Battle Command on the Move

The prototype Battle Command on the Move Stryker combines the mission equipment package from PM Battle Command on the Move (PM BCOTM) with TARDEC's fabrication and systems integration capabilities to create a powerful mobile battle command center. The upgraded, Soldier-friendly, mobile command post is equipped with the latest radios, computers and network components to give Soldiers unprecedented battlefield situational awareness and survivability capabilities.

(Submitted by U.S. Army Research, Development and Engineering Command Public Affairs Office)



Former RDECOM Commander, Maj. Gen. John C. Doesburg, visits the TARDEC/RDECOM exhibition booth at AUSA's annual meeting on Oct. 26.



Defense Travel System Streamlines Temporary Duty Travel

The U.S. Army Materiel Command and the U.S. Army Research Development and Engineering Command are joining other Army organizations that are already using the new Defense Travel System. First envisioned in the mid-1990s, DTS began fielding in 2001 at 27 pilot sites and at 232 other sites across the Department of Defense to support thousands of military and civilian personnel.

DTS provides several benefits to travelers, authorizing officials, managers and commanders including: fast, electronic reimbursement of travel expenses; approvals and certifications tied directly to mission; a significant reduction in time spent administering travel; reduced paperwork; and the automated payment of government charge cards.

On Oct. 20, 2003, DTS was approved for fielding and became the official DoD temporary duty travel system. "Within the next two years, we will deploy DTS to the most high-volume travel sites within DoD," said Col. Brandy Johnson, DTS program director. "It will take time to deploy DTS to all of the DOD, but the process is well underway."

(More information about DTS can be found at the DTS Web site, www.defensetravel.osd.mil.)

New Principal Deputy Arrives At Soldier Systems Center

U.S. Army Soldier Systems Center

NATICK, Mass. -- The U.S. Army Soldier Systems Center has added retired Brig. Gen. Edward Harrington to the team as the Principal Deputy to the Commanding General.

Harrington, a native of Massachusetts and retired from active duty Jan. 1 after more than 33 years of service, accepted the newly-created position from Brig. Gen. James Moran, SSC commanding general, to be his "boots on the ground."

"The key goal is to help Natick continue to achieve more success," said Harrington, discussing SSC's reputation as the world leader in the development of food, clothing, shelters, airdrop and Soldier support items. "The work done here is absolutely crucial to the Soldier and Warfighter on the front lines."

Harrington recalled being at the Baghdad Airport last year when an SSC team coincidentally came through. "They were talking to Soldiers about their gear and passing out new MRE items. It was a real morale booster, especially in the 125-degree-plus heat," he said.

Harrington continued that he and Moran have talked about the position as one with some fixed responsibilities, but the slot also would be flexible as well to allow for the needs of the organization as the Army continues to transform. "We've talked about the need to maintain and improve the installation. We've also talked about this position as a liaison with the community, the state, and with DA and DoD staff," he said.

Harrington said his first visit to Natick was about 23 years ago when he was a captain with the Fitchburg ROTC Detachment. That visit was followed by other visits as Harrington moved into positions where he worked with groups and individuals at the SSC, including many of the installation's commanders.

Before coming to Natick, Harrington served as director of the Defense Contract Management Agency headquartered in Alexandria, Virginia. He commanded DCMA's East District in Boston in an earlier assignment, where he said he worked closely with SSC's acquisition team on several contracts.

Drafted into the Army in 1970 as an enlisted infantryman, Harrington was selected to attend the Infantry Officer Candidate School at Fort Benning, Ga. He earned his commission as a quartermaster officer in September 1971 and was assigned to Vietnam, first as a support platoon leader in the 1st Cavalry Division and later as the commander, U.S. Army Traffic Management Center, 3rd Traffic Region, Vietnam. After he completed his Vietnam tour, he was assigned to XVIII Airborne Corps, Fort Bragg, N.C., serving in a variety of company command and battalion staff officer assignments.

Harrington next served as a logistics officer in the 39th Signal Battalion and the 5th Signal Command staff in Germany. From 1980-1983, Harrington was assigned as an assistant professor of Military Science at Worcester Polytechnic Institute, Worcester, Mass.

After that assignment, Harrington moved to the U.S. Army Tank-Automotive and Armaments Command, Warren, Mich., where he was a production manager for the M1A1 Abrams Tank. Harrington then served as the S-3/Logistics Operations officer for the 45th Support Group at Schofield Barracks, Hawaii. His next assignment took him to Fort Lee, Va., where he served as a Product Manager for two tactical information systems.

In 1992, Harrington attended the Senior Service College Fellowship Program at the University of Texas in Austin followed by an assignment to Office of the Assistant Secretary of the Army for Research, Development and Acquisition in Washington, D.C.

From July 1994 until January 1997, he commanded the Defense Contract Management Command, Syracuse, N.Y.

In 1997 he returned to the Assistant Secretary of the Army's office to serve as the Army's Director of Contracting and, later, Executive Officer and Chief of Staff. In 1998, he assumed command of the Defense Contract Management District East, Boston,



Mass., until September 1999, when he returned to Warren, Mich., as the Deputy for Systems Acquisition (DSA) at the U.S. Army Tank-Automotive and Armaments Command.

Harrington's awards include the Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit (with two oak leaf clusters), Bronze Star Medal, the Defense Meritorious Service Medal, Meritorious Service Medal (with two oak leaf clusters), Joint Service Commendation Medal, Army Commendation Medal (with eight oak leaf clusters), Army Achievement Medal, the Army Staff Identification Badge and the Parachutist Badge.

Harrington graduated from Northeastern University in 1970 with a Bachelor of Science degree in Business Administration. He received a master's degree in contracting and acquisition management in 1984 from the Florida Institute of Technology.

(Submitted by U.S. Army Soldier Systems Center Public Affairs Office)

Security Tips for Travelers

Look and Listen – Be Smart – Be Vigilant

Everyone is responsible for their own security, which is especially true while traveling. To ensure that your journey is safe and secure, make security awareness an integral part of your travel experience. By so doing, you may help make a difference in the war on terrorism and criminal actions.

Be aware of suspicious or unusual behavior and conversations in and around your immediate surroundings. If you observe these things and others such as unattended packages, devices and baggage, immediately inform the proper authorities.

- Be able to accurately describe the suspicious object(s). Do not touch the object.
- Do not utilize your cell phone/PDA/radios, etc., within 50 feet of the object. Your transmission could activate the device.

Resist discussing your job or travel plans with the friendly person next to you and avoid the temptation to work on your laptop in public. Be cautious about conducting business matters on the phone, including cellular phones.

Watch out for staged mishaps, like someone bumping into you or spilling a drink. Often it's a ploy to divert your attention while a pick-pocket grabs your wallet or other valuables.

Carry one or two major credit cards and travelers checks rather than cash. Carry your purse close to your body, or your wallet in an inside front pocket.

Items like medicines, cash, jewelry, business papers and valuables should be packed in a carry-on bag. Remember to keep carry-on bag and tickets with you at all times.

Never leave anything unattended as it could be subjected to tampering and/or theft and never carry anything for another person, especially for someone you do not know. History has shown that criminals and terrorists use unwitting passengers to carry bombs or other dangerous items, by tricking passengers into carrying packages or by simply slipping items into unwatched bags.

Humor is not an option - Do not joke about having a bomb or firearm, etc. in your possession. Security personnel are trained to react when they hear these words. Penalties can be severe and can include the possibility of time in prison and/or fines.

(Compiled by the U.S. Army Research Development and Engineering Command Antiterrorism, Law Enforcement and Physical Security Team)

